ARCHIVES D'EDLECTRICITE MEDICALE

(No. 120, 1902, December.)

1. An Adjustable Inductance for High Frequency Resonators. H. GUILLEMINOT.
2. On the Use of an Electrolyte in Parallel to the Primary Current of a Coil for the Production of X Rays and High Frequency Currents. BORDIER and NOGIER.
3. Anesthesia by the High-frequency Brush Discharge in the Ablation of Protruding Hemorrhoids and Hemorrhoidal Condylomata. BILLINKIN.
4. Electric Cerebral Inhibition in Man. STÉPHANE LEDUC.
5. Measuring the Diameters and the Area of the Heart upon the Radioscopic Screen without Drawing. A New Arrangement Adapted to Any Screen. H. GUILLEMINOT.
6. Death and Accidents by Industrial Electric Currents. F. BATTELLI.
7. Congress at Berne. Exhibition of Apparatus for Medical Electricity and for the Production of X Rays.

1. *Inductance for Resonators.*—The author describes his method of more accurately tuning resonators by the introduction of an adjustable self-induction coil in the primary oscillating circuit, a device that was employed by Tesla about 13 years ago.

2. *Electrolytes in the Primary Circuit of Induction Coils.*—The writers recommend shunting the terminals of the primary by a small cell composed of lead plates submerged in very dilute sulphuric acid. Under certain conditions of current the relative spark length of the coil is stated to be considerably increased.

3. *Electrical Anesthesia in the Excision of Hemorrhoids, etc.*—In this paper the author fully describes his mode of using a high-frequency brush discharge applied to the anus to produce anesthesia and constriction of the neighboring blood vessels. With suitable apparatus properly used a painless and practically bloodless operation can be performed.

4. *Cerebral Inhibition.*—A description of a method of producing partial inhibition of the sensori-motor cerebral centers by causing a rapidly interrupted electric current to traverse the brain and spinal cord. The negative electrode is placed upon the forehead and the positive on the lumbar spine. A 50-volt generator of low internal resistance is used to supply the current in conjunction with an adjustable shunt rheostat, while the current is interrupted by means of a Gaiffe mercury interrupter. The sensations of the subjects, Prof. Malherbe and Alfred Rouxeau, upon whom the investigations were made, were as follows: "When the current was at a maximum we could still hear as in a dream what was said; we were conscious of our inability to move and to communicate with our colleagues; we perceived the touches, the pinching, and the pricks upon our arms, but the sensations were dulled like those from a limb fast asleep, etc." No disagreeable after-effect resulted.

5. *Measurement of the Heart Area, etc.*—A short desciption of the author's new disposition of his previously-described frame with horizontal wires and sliding balls, designed to measure the diameters and the area of the heart, projected orthogonally upon the fluorescent screen. In its new form the frame is placed on the fluorescent side of the screen, and the measurements are read distinctly from the accompanying centimeter scale on glass.

6. *Death by Electric Currents.*—A lengthy and complete paper which should be read in full to be appreciated. The paper is an extensive summary of Prof. Prevost and Dr. Battelli's investigations upon this important subject, and also contains some very interesting remarks upon the electrocution of criminals in this country. Briefly stated, the author finds that low-tension continuous or alternating currents kill by causing cardiac

fibrillation; high tension alternating currents at 1,200 volts or more kill on the contrary by inhibiting the respiratory center. Alternating currents of from 240 volts to 600 volts produce in dogs cardiac fibrillation and often permanent arrest of respiration. High-tension currents, according to the author, do not produce cardiac fibrillation, but possess the property of causing a fibrillating heart to beat coordinately after it has been subjected to a previously applied low tension current. Upon the subject of criminal electrocution the author says: "With the introduction of the new method employed in electrocutions (a high-tension current followed by a low-tension current), the inhibition of the nerve centers is followed by cardiac paralysis. Thus burns are avoided, and the signs of life cease most rapidly. Electrocution, as all other methods of capital punishment, is a disgrace to our civilization, but it is the least repugnant because consciousness is immediately lost and the condemned is not disfigured, nor is the execution bloody."

(No. 121, 1903, January.)

1. Measuring the Actinic Power of the Radiants Employed in Phototherapy. A New Actinometer. BORDIER and NOGIER.
2. On Intra-rachidian Stimulation in Man as a Therapeutic Procedure. J. BERGONIE.
3. On the Maximum Power of Currents Employed in Medicine and the Way to Obtain Them. H. GUILLEMINOT.
4. Electrotherapy and Orthopedics. E. ALBERT-WEIL.
5. The Present State of Electrodiagnostics. LUDWIG MANN
6. A Five-Cell Electric Bath or Perineal Bath. FELIX ALLARD.

1. *Measurement of Actinic Power in Phototherapy.*—As the authors consider it highly advisable to gain some idea of the intensity of the violet and ultra-violet rays to which the subjects are subjected in phototherapy, they have devised a special form of actinometer by which it is claimed that not only the relative intensity of violet rays can be accurately measured but also the intensity of X rays.

2. *Intra-rachidian Electrical Stimulation.*—A paper describing the effects of faradic excitation of the cord and nerve roots in three patients in whom the lumbar puncture was performed several times. The patients apparently experienced no pain and, luckily, experienced no evil after-effects.

3. *Maximum Intensity of Currents in Medicine.*—A paper based upon mathematical and theoretical considerations from which the author concludes as follows: (1) If a generator with unchangeable constants is employed in conjunction with a variable external resistance, the maximum intensity of current will be obtained by making the external R. equal to the internal r. (2) If the resistance of the external circuit is unvariable and several generators are employed. q elements in parallel must be united into t groups in series, so that $\frac{t}{q} = \frac{R}{r}$ in order to obtain the maximum current.

4. *Electrotherapy and Orthopedics.*—This paper is merely a brief sketch written to show that the use of electricity exerts considerable benefit in orthopedics, "but one must not forget that its value depends upon the manner of its application." The writer fears from his experience that the use of the galvanic current in atrophic paralyses in children is inapplicable, owing to the pain produced by the electrodes.

5. *Electrodiagnosis.*—A long summary discussing the merits and demerits of the various commonly employed methods used in electrodiagnosis, which is unsuitable for abstraction.

6. *Electric Perineal Bath.*—A description of an apparatus consisting of five vessels suitably connected to a switch board, so that one of special shape, in which the patient sits, serves as one electrode while the remaining four in which the hands and feet are inserted, form the other electrode.

(No. 122, 1903, February.)

1. On the Electric Treatment of Basedow's Disease. TH. GUILLOZ.
2. How to Understand the Contra-indications to the Electric Treatment of Uterine Fibromyomata. M. LAQUERRIÈRE.
3. The Treatment of Gonorrheal Arthritis in the Acute Inflammatory Stage by Strong Continuous Currents. LOUIS DELHERM.
4. The Action of Ozone Upon the Bacillus and the Toxine of Diphtheria. F. ARLVING and M. TRONDE.

1. *Treatment of Basedow's Disease.* The author reports two cases of Basedow's disease considerably ameliorated by the electro-cataphoretic method of treatment, in which iodine was introduced into the tissues by a strong continuous current.

2. *Treatment of Fibromyoma.* After discussing the various varieties of electric treatment and specifying those forms of this trouble to which the different varieties of current are most applicable, the author gives a number of absolute and relative contra-indications which should be read in the original to be appreciated.

3. *Treatment of Gonorrheal Arthritis by the Continuous Current.* The author advises that in cases of hydarthrosis, or gonorrheal arthritis a galvanic current of from 20 to 60 m. a. be applied as soon as possible once or twice a day. Large kaolin electrodes are to be used.

4. *Action of Ozone on the Diphtheria Bacillus.*—These authors find that by exposing cultures of Loeffler's bacillus to ozonized air (.025 gram to 1 liter the effect on the bacilli is as follows: (1) Ozone cannot kill the bacilli in a nutritive liquid. (2) It can attenuate their growth for 48 hours, although the proliferation after this period is less marked than in ordinary cultures. (3) It diminishes the virulence of the bacilli so that inoculated guinea pigs survive, and in those that die only lesions at site of the inoculation are found. When the toxin was exposed to 200 liters of the above-mentioned ozone mixture, the animals survived a 1 cc. injection, although the control animals died in 24 hours from a dose of 0.5 cc. R. H. CUNNINGHAM.

JOURNAL DE NEUROLOGIE

(Vol. 7, 1902, No. 21, November 5.)

1. Sensorial Excitations as a Cause of Epileptic Seizures.. CH. FÉRÉ.
2. Occipito-Cerebellar Syndrome. L. MARCHAND.
3. Exophthalmic Goiter. Treatment by Thymus. A. BIENFAIT.

1. *Sensory Excitation in Epilepsy.*—The author emphasizes the fact that sensorial as well as sensory excitations may provoke epileptic attacks, and relates the following cases: (1) In an idiot of eighteen years, subject to both diurnal and nocturnal attacks of grand mal, the diurnal seizures were found constantly to follow sensorial excitations. Sudden noises, sudden variations in intensity of light, a current of air, and even a strong odor sufficed to bring on a fit. (2) In a man of sixty-five years of age, epileptic from his youth, and having two or three fits monthly, loud noises and sudden changes in light intensity would often bring on an attack. The author saw a typical grand mal seizure produced in this case by a sudden blow on the table behind the patient. The lesson taught is that in epileptics careful investigation into the exciting causes of their attacks should be made, and attention should be paid to any idiosyncrasies in this particular which they may present.

2. *Occipito-cerebellar Syndrome.*—The author describes the case of a woman of forty-two years of age, who had had occasional attacks of epilepsy for five years. Seized suddenly with headache, diarrhea and vomiting, she speedily developed loss of vision, going on to nearly complete blindness, staggering gait, Romberg's symptom and exaggerated reflexes.